

ABSTRACT

A stator support system for supporting a stator coil assembly includes an inner support tube having an outer surface; spaced windings supported on the inner support tube with spaces between adjacent windings defining gaps; support members, each disposed within one of the gaps and having a first and second edge configured to mechanically engage the outer surface of the inner support tube; and a cross support positioned over the spaced winding and extending perpendicular to a longitudinal axis of the stator coil assembly. The cross support having a first edge configured to mechanically engage the second edge of the support members. The stator coil assembly can include a stator coil having at least one conductive winding; an electrically insulating material disposed around the stator coil; at least one cooling conduit for receiving a coolant from an outside source, the at least one cooling conduit disposed adjacent a first portion of an outer surface of the stator coil; and a thermally conductive member including graphite and disposed around the at least one cooling conduit and a second portion of the outer surface of the stator coil to transfer heat from the second portion to the at least one cooling conduit, thereby reducing the temperature gradient in the electrically insulating material.

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